



(11) **EP 0 577 365 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
03.01.1996 Bulletin 1996/01

(51) Int Cl.⁶: **H04N 7/133**, H04N 7/36,
H04N 7/26, H04N 7/46,
H04N 7/50, H04N 7/30

(43) Date of publication A2:
05.01.1994 Bulletin 1994/01

(21) Application number: 93305029.6

(22) Date of filing: 28.06.1993

(84) Designated Contracting States:
AT DE ES FR GB IT NL

(30) Priority: 29.06.1992 JP 170324/92
28.07.1992 JP 219633/92

(71) Applicant: **SONY CORPORATION**
Tokyo 141 (JP)

(72) Inventors:

- Igarashi, Katsuji, c/o Patents Division
Shinagawa-ku, Tokyo 141 (JP)
- Yonemitsu, Jun, c/o Patents Division
Shinagawa-ku, Tokyo 141 (JP)

- Yagasaki, Yoichi, c/o Patents Division
Shinagawa-ku, Tokyo 141 (JP)
- Fujinami, Yasushi, c/o Patents Division
Shinagawa-ku, Tokyo 141 (JP)
- Sato, Tomoyuki, c/o Patents Division
Shinagawa-ku, Tokyo 141 (JP)
- Kato, Motoki, c/o Patents Division
Shinagawa-ku, Tokyo 141 (JP)
- Suzuki, Teruhiko, c/o Patents Division
Shinagawa-ku, Tokyo 141 (JP)

(74) Representative: **Robinson, Nigel Alexander
Julian et al
London EC4A 1DA (GB)**

(54) Encoding and decoding of picture signals

(57) In order to realise a high picture quality with a small information volume, to reduce the hardware scale and to reduce the capacity of the frame buffer of a decoder, a limitation mode decision circuit 34 adaptively changes over a mode of inhibiting interframe predictive coding over the entire macro-blocks in each slice to a mode of inhibiting interfield predictive coding in a frame being encoded over the entire macro-blocks in one slice. As for a B-frame, prediction from its odd field to its even field is inhibited, while prediction from an odd field, such as an I₀ field, of a reference frame of forward prediction is also inhibited.

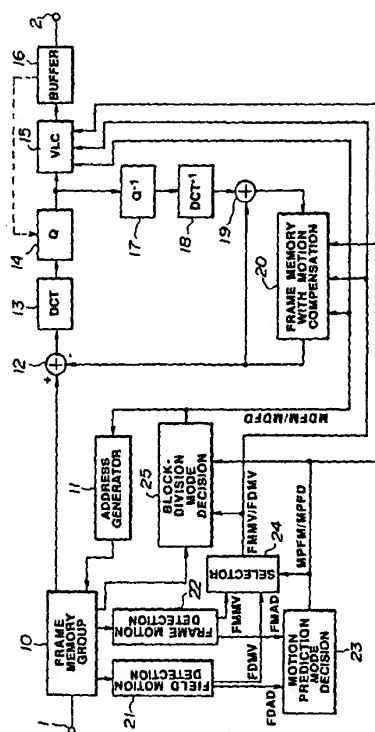


FIG. 1



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 93 30 5029

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 5)
X	US-A-5 091 782 (KRAUSE ET AL.)	1-7, 11, 12, 14, 19, 21-28, 30, 32, 33, 35, 40, 50, 51	H04N7/133 H04N7/36 H04N7/26 H04N7/46 H04N7/50 H04N7/30
Y	* column 5, line 15 - column 11, line 4 *	8, 9, 13, 15, 29, 31, 34, 36, 41-46, 48, 52-56	
Y	--- EP-A-0 441 168 (TELETTRA TELEFONIA ELETTRONICA E RADIO S.P.A.) * page 3, column 2, line 29 - page 6, column 8, line 47 *	8, 9, 13, 15, 17, 29, 31, 34, 36, 38, 53	
X	--- EP-A-0 484 140 (VICOR COMPANY OF JAPAN, LTD)	16, 18, 20, 37, 39	H04N
Y	* column 15, line 24 - column 17, line 8 *	17, 38, 41-44, 46, 48, 52, 54-56	
Y	--- US-A-4 546 386 (MATSUMOTO ET AL.) * column 3, line 67 - column 4, line 30 * --- -/--	45	
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 23 October 1995	Examiner Materne, A
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : member of the same patent family, corresponding document</p>			

EPO FORM 1502 (12.92) (P04/CH)



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 93 30 5029

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
X	IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS ICC'90, vol. 3, 15 April 1990 ATLANTA, pages 1049-1053, OKUMURA ET AL. 'High Quality Transmission System Design for HDTV Signals' * page 1050, column 2, line 1 - page 1052, column 2, line 7 *	57,58	
X	SIGNAL PROCESSING OF HDTV, II, 30 August 1989 TURIN, pages 739-748, KUTKA 'Block adaptive frame/field DCT coding decided by the vertical difference test' * page 745 *	1,6,11, 14,19,21	
A	EP-A-0 467 718 (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.) * column 6, line 9 - column 10, line 52 *	1-58	
A	IMAGE PROCESSING ALGORITHMS AND TECHNIQUES, 12 February 1990 SANTA CLARA, CALIFORNIA, pages 389-405, PLOMPEN ET AL. 'Motion video coding; An universal coding approach' * page 397 - page 404 *	1-58	
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 23 October 1995	Examiner Materne, A
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : member of the same patent family, corresponding document</p>			

EPF FORM 1503 (04/93) (P/0001)